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David A. Fish

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PHILIPS INTELLECTUAL PROPERTY & STANDARDS

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BRIARCLIFF MANOR, NY 10510

EXAMINER

FRY, MATTHEW A

ART UNIT

PAPER NUMBER

2629

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PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

|                              |                                      |                                    |  |
|------------------------------|--------------------------------------|------------------------------------|--|
| <b>Office Action Summary</b> | <b>Application No.</b><br>10/598,822 | <b>Applicant(s)</b><br>FISH ET AL. |  |
|                              | <b>Examiner</b><br>MATTHEW A. FRY    | <b>Art Unit</b><br>2629            |  |

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 01 February 0810.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-23 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-23 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 08 February 2010 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |   |   |
|---|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892)                    | 4) <input type="checkbox"/> Interview Summary (PTO-413)           |
| 2) <input type="checkbox"/> Notice of Draftperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____                                      |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)         | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____   | 6) <input type="checkbox"/> Other: _____                          |

## **DETAILED ACTION**

### ***Response to Arguments***

1. Applicant's arguments filed 2/8/10 have been fully considered but they are not persuasive.
2. Applicant argues (Remarks page 7) the 112 rejections or the previous Office Action. While Applicant's explanations clarify the claim limitations, the claims still remain indefinite, without further description or explanation in the claim language.
3. Applicant argues (Remarks page 8) that Hayashi does not disclose or suggest "a light-dependent device located laterally outside of the area of the light emitting material for detecting the brightness of the display element." Applicant argues that Hayashi teaches the light sensor 1 is provided on top of the light emitting element.

Hayashi's figure 1, shows light-dependent device (1) which is outside of the light emitting material (12). Merriam-Webster's Dictionary defines Laterally as "of or relating to the side". As can be seen in Hayashi's figure 1, light sensor 1 is situated to the side of the light emitting material 12.

<http://www.merriam-webster.com/dictionary/laterally>

### ***Drawings***

4. The drawings were received on 2/8/10. These drawings are accepted.
5. The drawings are objected to under 37 CFR 1.83(a). The drawings must show every feature of the invention specified in the claims. Therefore, the "reflecting layer above the light dependent device is formed at the level of the bottom electrode" (claim

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18) must be shown or the feature(s) canceled from the claim(s). No new matter should be entered.

Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. The figure or figure number of an amended drawing should not be labeled as "amended." If a drawing figure is to be canceled, the appropriate figure must be removed from the replacement sheet, and where necessary, the remaining figures must be renumbered and appropriate changes made to the brief description of the several views of the drawings for consistency. Additional replacement sheets may be necessary to show the renumbering of the remaining figures. Each drawing sheet submitted after the filing date of an application must be labeled in the top margin as either "Replacement Sheet" or "New Sheet" pursuant to 37 CFR 1.121(d). If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

### ***Claim Rejections - 35 USC § 112***

6. The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

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7. Claim 18 is rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention. Claim 18 recites the limitation, wherein the "reflecting layer above the light dependent device is formed at the level of the bottom electrode" which is not support by the original specification and is thus new matter.

8. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

9. Claims 7, 9-14 and 17-20 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

10. Claim 7 recites the limitation, "a first angle" with no explanation what the first angle represents or if it a first angle to the normal or what reference points it's based off of, making the claim indefinite.

11. Claims 9-11, 14, 19 and 20 recite the claim, "printing dams" which is an element which is not clearly defined in either the claims or the specification. Therefore it is unclear what the Applicant is claiming by use of that limitation.

12. Claim 12 recites the limitation, "lower resistance" but does not state what it is lower than, and is therefore unclear.

13. Claim 13 is rejected based on their dependence.

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14. Claim 17 recites the limitation, wherein the reflecting layer is for reflecting light from the reflecting layer. This is unclear.

15. Claim 18 recites the limitation, "the reflecting layer" which is unclear because two reflecting layers have been describes in claims 16 and 17 and it is unclear which layer claim 18 is referring to.

***Claim Rejections - 35 USC § 102***

16. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

17. Claims 1-3 and 23 are rejected under 35 U.S.C. 102(b) as being anticipated by Hayashi et al (US 2003/0047736).

In regards to claim 1, Hayashi discloses an active matrix display device comprising an array of display pixels, each pixel comprising: a current-driven light emitting display element (2) comprising an area of light emitting material (76) (12) sandwiched between electrodes (74,80) (11 and 13); a light-dependent device located laterally outside of the area of light emitting material (27,52,90) (1) for detecting the brightness of the display element (2) (¶ 76); and a drive transistor circuit (16,22,24,29; 16,22,24,34,36,40) (2; ¶ 75) for driving a current through the display element, wherein the drive transistor (22) is controlled in response to the light-dependent device output (see figure 1; ¶ 77 and 78). Hayashi's figure 1, shows light-dependent device (1) which

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is outside of the light emitting material (12). Examiner considers Laterally as “of or relating to the side”. As can be seen in Hayashi’s figure 1, light sensor 1 is situated to the side of the light emitting material 12.

18. In regards to claim 2, Hayashi discloses a device as claimed in claim 1, wherein the light-dependent device (27,52,90) comprises a photodiode (see ¶ 28).

19. In regards to claim 3, Hayashi discloses a device as claimed in claim 2, wherein the photodiode comprises a PIN or NIP diode stack or a Schottky diode and top (93) (34) and bottom (94) (31) contact terminals (see ¶ 28).

20. In regards to claim 23, Hayashi discloses a device as claimed in claim 1, wherein the light emitting display element comprises an electroluminescent display element (see ¶ 2).

### ***Claim Rejections - 35 USC § 103***

21. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

22. Claim 4 is rejected under 35 U.S.C. 103(a) as being unpatentable over Hayashi et al (US 2003/0047736) in view of Zavracky et al (US 5,751,261).

23. In regards to claim 4, Hayashi discloses a device as claimed in claim 3, but does not discuss a light shield covering the side of the photodiode.

Zavrachy teaches a display comprising a photodiode wherein the top (93) contact terminal (1067) extends over the top of the stack and down one side of the stack and acts as a light shield to pixels on the one side of the photodiode (94) (see figure 7H)

Shielding the photodiode from ambient light and light emitted from other pixels would have been obvious to one of ordinary skill in the art in order to provide the most accurate reading of the emitted light.

24. Claims 5-8, 15-18, and 21-22 are rejected under 35 U.S.C. 103(a) as being unpatentable over Hayashi et al (US 2003/0047736) in view of Forrest et al (US 2004/0031965).

25. In regards to claim 5, Hayashi discloses a device as claimed in claim 1, wherein the electrodes comprise a top substantially transparent electrode (80a) (see ¶ 54) but does not discuss a bottom substantially non-transparent, reflective electrode (74a).

Forrest teaches an OLED comprising an EL layer, two electrodes and a photodetector wherein the electrodes comprise a top substantially transparent electrode (80a) and a bottom substantially non-transparent, reflective electrode (74a) (see figure 2 and ¶ 50).

It would have been obvious to one of ordinary skill in the art to modify Hayashi with Forrest to make the bottom electrode reflective in order to reflect more light to the user and thus make the display more efficient.



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26. In regards to claim 6, Hayashi as modified discloses a device as claimed claim 5, wherein the bottom electrode (74a) is for reflecting light from the display element to the light dependent device (see Forrest figure 2 and ¶ 66).

27. In regards to claim 7, Hayashi as modified discloses a device as claimed in claim 6, wherein the bottom electrode (74a) is for reflecting light emitted at an angle to the normal greater than a first angle to the light dependent device (see Forrest figure 4).

28. In regards to claim 8, Hayashi discloses a device as claimed in claim 6, further comprising a reflecting layer (102) above the light dependent device and for reflecting light from the bottom electrode (74a) to the light dependent device (see Forrest ¶ 36 and 66).

29. In regards to claim 15, Hayashi as modified discloses a device as claimed in claim 1, wherein the electrodes comprise a top substantially transparent electrode and a bottom substantially transparent electrode (74) (see Forrest ¶ 39).

30. In regards to claim 16, Hayashi discloses a device as claimed in claim 15, wherein the device further comprises an additional reflective layer (70;62) beneath the bottom electrode (74) (see Forrest ¶ 50).

31. In regards to claim 17, Hayashi as modified discloses a device as claimed in claim 16, further comprising a reflecting layer (102;110) above the light dependent device (90) and for reflecting light from the reflecting layer (102;110) to the light dependent device (see Forrest ¶ 36 and 66).

32. In regards to claim 18, Hayashi as modified discloses a device as claimed in claim 17, wherein the reflecting layer (102; 110) above the light dependent device is

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formed at the level of the bottom electrode (74) of the light emitting display element (see Forrest ¶ 50).

33. In regards to claim 21, Hayashi as modified discloses a device as claimed in claim 1, wherein the light-dependent device extends alongside the area of light emitting material and extends along substantially the full length of one side of the area of light emitting material (see Forrest figure 2; Hayashi figure 2).

34. In regards to claim 22, Hayashi as modified discloses a device as claimed in claim 21, but does not explicitly teach wherein the light-dependent device extends around an upper and lower portion of the area of light emitting material. However, this would have been an obvious design choice for one of ordinary skill in the art, as it would increase the amount of luminance received by the light-dependent device.

35. Claims 9-11 and 19-20 are rejected under 35 U.S.C. 103(a) as being unpatentable over Hayashi et al (US 2003/0047736) in view of Forrest et al (US 2004/0031965) and further in view of Yamazaki et al (US 2001/0026125).

36. In regards to claim 9, Hayashi as modified discloses a device as claimed in claim 8, but does not teach a plurality of printing dams.

Yamazaki teaches a display further comprises a plurality of printing dams (78) (105) and the light emitting material (76) (106) comprises a printable material (see figure 1b).

It would have been obvious to one of ordinary skill in the art to modify Hayashi as modified with Yamazaki as use of banks are commonly known in the art of display manufacturing and assist in accurate printing of different EL elements.

37. In regards to claim 10, Hayashi as modified discloses a device as claimed in claim 9, wherein the reflecting layer (102) is formed at the base of the printing dams (78) (see Forrest figure 2; Yamazaki figure 1B).

38. In regards to claim 11, Hayashi as modified discloses a device as claimed in claim 9, wherein the printing dams comprise an insulating body (105a) and a conducting metal layer (79) (105b and 107) over the insulating body (see Yamazaki figure 1b).

39. In regards to claim 19 and 20, see claim 9 and 10 explanations above.

### ***Conclusion***

40. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

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Any inquiry concerning this communication or earlier communications from the examiner should be directed to MATTHEW A. FRY whose telephone number is (571) 270-7355. The examiner can normally be reached on Monday thru Friday, 8:00 AM to 5:00 PM, alternate Fridays, EST.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Bipin Shalwala can be reached on (571) 272-7681. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Bipin Shalwala/  
Supervisory Patent Examiner, Art Unit 2629

/MATTHEW A FRY/  
Examiner, Art Unit 2629